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ABSTRACT

This document is a report on the data-matching findings of former students at Cabrillo College (California). The college used data from the National Student Clearinghouse (NSC) database and conducted data matching on 81,964 students who attended and left the community college from 1992 to 2001. Findings indicated that the transfer rates of students at the college have held steady or increased since 1996. About 25% of the students were shown to have transferred either to out-of-state four-year colleges or non-University of California (UC)/California State University (CSU) institutions. More than a third of the students were enrolled in a UC institution, with more than another third enrolled at a CSU institution. The report recommends that: (1) the California Community Colleges Chancellor's Office (CCCCO) should work with UC/CSU system offices to release to community colleges unitary data records beyond summary report for transfer improvement research; (2) individual colleges should be encouraged to use NSC data to report as their transfer counts; (3) policies should be established and research studies conducted on transfers to four-year non-UC/CSU institutions; (4) research should be conducted on the transferred students to better understand their academic behaviors; and (5) in conjunction with releasing identifiable information of the California Postsecondary Education Commission's transfers, the CCCCO should use its data warehouse to provide reports to individual colleges on multiple enrollment and units taken at each location. (MKF)

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Findings and Recommendations Pertaining to National Student Clearinghouse Transfer Data Matching Results.

John D. Hurd
Jing Luan

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December 17, 2001

MEMO TO: Tom Nussbaum, Chancellor, California Community Colleges

FROM: John D. Hurd, President
Jing Luan, Ph.D., Director of Planning and Research

SUBJECT: Findings and Recommendations Pertaining to National Student Clearing House Transfer Data Matching Results

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Summary: Recently the California Community College Chancellor's Office entered into an agreement with the National Student Clearinghouse (NSC), which facilitated the use of the NSC database by California colleges. Cabrillo College took advantage of this opportunity and conducted data matching on 81,964 Cabrillo students who enrolled and left Cabrillo from 1992-2001. The summary findings are:

1) The differences in the number of Cabrillo College transfers to UC and CSU institutions resulting from counting methods used by CPEC and NSC respectively range from moderate to large. On average the difference could be 37% more transfers as reported by NSC. For example, for 99-00, CPEC reported a total of 241 transferred to UC, but NSC later showed a total of 555.

2) NSC data indicate that UC and CSU transfer trends of Cabrillo students have not been dropping. Instead, they have either been holding steady or increasing since 1996-97.

3) Of every 10 Cabrillo students that have transferred, a quarter of them go to other four-year institutions (non-UC/CSU and out of state), a little over a third to UC and another third to CSU institutions. In percentages, 24.4% of the transferred Cabrillo students on a yearly basis were enrolled in a wide variety of four-year, non-UC/CSU institutions, such as the University of Phoenix, or even the mighty University of Michigan.

We recommend that 1) the Chancellor's Office work with UC/CSU system offices to release unitary information on the transfers for more meaningful studies to improve transfers; 2) encourage the use of NSC matching results as individual college's transfer number; 3) conduct policy studies on the higher than previously expected number of

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transfers to other four-year institutions; 4) and for individual colleges conduct course level research studies to support transfer; 5) release course taking data of lateral transfers in the California community college system.

The attached Executive Briefing contains three sections. Section One is the analysis of the differences of counting transfers. Section Two contains analysis of transfer destinations. Section Three makes recommendations and advises caution when interpreting the data.

We appreciate the initiative by the Chancellor's Office that provided Cabrillo with the opportunity to access and analyze NSC data. We look forward to working with the Chancellor's Office and the system to increase the accuracy and understanding of community college transfer numbers.

Executive Briefing

Jing Luan, Ph.D.

SUBJECT: Findings and Recommendations Pertaining to National Student Clearing House Transfer Data Matching Results

SUMMARY: Cabrillo College took advantage of the service introduced by Chancellor Tom Nussbaum and conducted data matching with the National Student Clearing House (NSC) Data Matching on all of its former students. The summary findings are:

1) **The differences in the number of transfers to UC and CSU institutions resulting from counting methods used by CPEC and NSC respectively range from moderate to large. On average, the difference could be 37% more transfers as reported by NSC. For example, Cabrillo Fact Book for 99-00 reported a total of 241 transferred to UC but NSC later showed a total of 555.**
2) **UC and CSU transfer trends have not been dropping. Instead, they have either been holding steady or increasing since 1996-97.**
3) **Of every 10 students that have transferred, a quarter of them would go to other 4-year institutions (non-UC/CSU and out of state), a little over a third to UC and another third to CSU institutions. In percentages, 24.4% of the transferred students on a yearly basis were enrolled in a 4-year, non-UC/CSU institution, such as University of Michigan, or Stanford.**

We recommend that (1) the Chancellor's Office work with UC/CSU system offices to release unitary data on the transfers for more meaningful studies to improve transfer; (2) encourage the use of the NSC matching results as individual college's transfer number; (3) conduct policy studies on the higher than previously expected number of transfers to other 4-year institutions; (4) and for individual colleges conduct course level research studies to support transfer; (5) release course taking data of lateral transfers in the California community college system.

This Executive Briefing contains three sections. Section One is the analysis of the differences of counting transfers. Section Two contains analysis of transfer destinations. Section Three makes recommendations and advises caution when interpreting the data.

Executive Briefing

Jing Luan, Ph.D.
Planning and Research Office

SUBJECT: Findings and Recommendations Pertaining to National Student Clearing House Transfer Data Matching Results

BACKGROUND

Recently, the National Student Clearing House (NSC) extended its service to California Community Colleges in the area of matching former community college students against NSC student enrollment databases for over 75% of the nations' 2-year and 4-year post-secondary institutions. In August 2001, Chancellor Tom Nussbaum sent out an announcement to all CEOs concerning the agreement between his office and NSC in which NSC will charge a flat fee of $500 with matching fund from the Chancellor's Office for colleges to conduct matching. Beyond this, colleges must rely on their own technical expertise to generate the database of students formatted strictly according to the requirements of NSC. Cabrillo College became one of the first 10 colleges to take advantage of this opportunity.

For the past decade, almost all colleges have relied on the data from CPEC to identify their UC and CSU transfer numbers. The data have always been considered inadequate to truly reflect the actual number of transfers, particularly the number of students transferring to 4-year non-UC/CSU institutions. Another issue that reduces the value of the data from CPEC is the fact that nothing beyond summary information by race is available to colleges.

METHODOLOGY/DESIGN

There are a variety of specific requirements and confidentiality policies governing the data matching agreement and activities. This briefing will not address those. There are mainly two types of matching. One is for tracking the subsequent enrollment of former students who have left the college. This is called "Subsequent Enrollment Matching". The second type of matching refers to tracking the enrollment of individuals who applied for admission at the college, but either have declined to enroll or have been denied admission. This is called "Prospective Students Enrollment Tracking." Cabrillo College Planning and Research Office (PRO) used students' full names with suffixes and their birthdays in accordance with the regulations to conduct Subsequent Enrollment Matching. The actual work took two weeks of solid data management task to stage, format, test, and submit, followed by more work in formatting the returned data and preparing for analysis.

FINDINGS

There were a total of 81,964 students who have enrolled and left Cabrillo College dating from 1992 to 2001. This briefing discusses the matching of these former students. The following sections detail the findings for the differences found in counting transfers, transfer destinations by name and year and count of students.

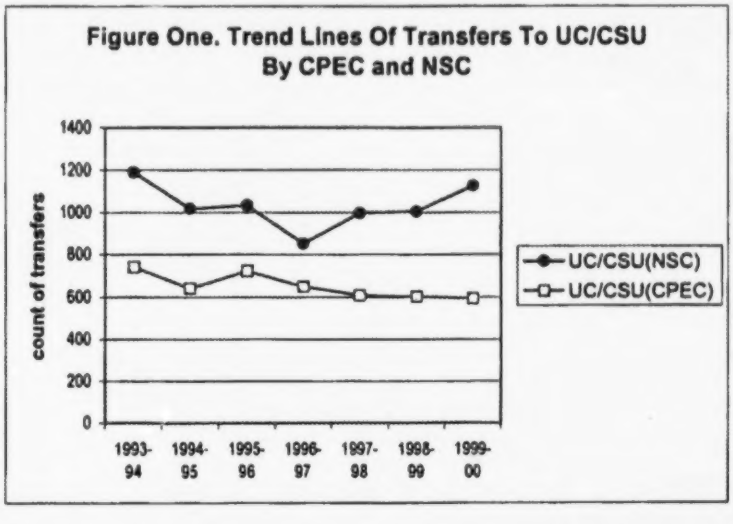
SECTION ONE. ANALYSIS OF DIFFERENCES IN COUNTING TRANSFERS

NSC Matching showed that between 1994 and 2000, a total of 9,583 former Cabrillo College students transferred to 4-year institutions. Averaging by year, over 1,000 students have transferred to these institutions. Of all the transfers, 37.4% of them went to the CSU system, 38.0% to UC and 24.6% to other 4-year non-UC/CSU institutions (Table One). The number and percentage of transfers to other 4-year institutions were considerably higher than previous estimates of 10%.

Another important finding is the transfer trend line. It differs from the published trend line based on the data from CPEC, which is used for decision-making by the Chancellor's Office and most recently, the Partnership for Excellence initiative. The data from NSC matching show a yearly upward trend since 1996. See Table One or Figure One.

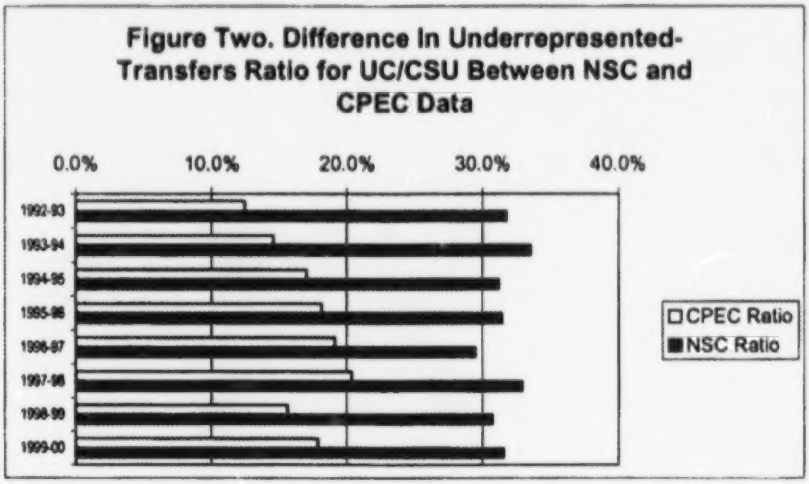
Table One. Transfer Numbers and Percentages Based on NSC Matching.

	CSU		UC		4-Year		Total
	#	%	#	%	#	%	#
1994	570	45%	620	49%	86	7%	1276
1995	507	41%	512	41%	221	18%	1240
1996	459	33%	575	41%	367	26%	1401
1997	435	35%	417	34%	375	31%	1227
1998	515	37%	483	35%	380	28%	1378
1999	522	35%	483	32%	485	33%	1490
2000	572	36%	555	35%	444	28%	1571
Total/Avg	3580	37.4%	3645	38.0%	2358	24.6%	9583



An examination of the ethnic composition of the transfers as reported by CPEC and NSC show significant differences (Figure Two). Taking all underrepresented transfers as a whole, Cabrillo College's percentage of underrepresented transfers have been hovering

between 10 – 20%. However, NSC data show in almost all years it has been above 30%. It is significant to note that the overall enrollment distribution of ethnicities for Cabrillo College is 28.9 for Fall 2001.



The above observations naturally lead to more questions about the discrepancies between the counts from CPEC and NSC. Table Two shows the detailed analysis of the summary counts of the numbers from both agencies. The table also shows the number of students missed by CPEC (shown as Diff, or the difference between the data from CPEC and that from NSC matching). Overall, the difference amounts to be an average of 37%.

Table Two. Analysis of Differences of Transfer Counting Methods.

Year	UC (CPEC)	UC (NSC)	Diff	CSU (CPEC)	CSU (NSC)	Diff	Total (CPEC)	Total (NSC)	Diff by #	Diff by %
1993-94	318	620	302	423	570	147	741	1190	449	38%
1994-95	252	512	260	389	507	118	641	1019	378	37%
1995-96	268	575	307	455	459	4	723	1034	311	30%
1996-97	263	417	154	386	435	49	649	852	203	24%
1997-98	286	483	197	323	515	192	609	998	389	39%
1998-99	241	483	242	362	522	160	603	1005	402	40%
1999-00	241	555	314	353	572	219	594	1127	533	47%
Total/Avg.	1869	3645	1776	2691	3580	889	4560	7225	2665	37%

Note: The counts from NSC are the total number of former Cabrillo students who enrolled in the UC/CSU system for the first time by year. NSC uses calendar year. Therefore, the count in 2000 is aligned with Academic Year 1999-00.

We believe the differences in transfers are the result of using two different counting methods. To confirm this, we contacted CPEC, UC President's Office and the CSU

Chancellor's Office to inquire about their method of counting transfers. They reported that the counts of transfers are conducted by CPEC on an annual basis that receives the counts from UC President's Office and CSU Chancellor's Office. These two organizations in turn collect information from individual UC and CSU campuses, mostly their registrars' office. Individual campuses report a transfer student's original college by totaling units of the transfer student by all the community colleges attended and crediting the college from which the student obtained the most units.

From the entire system perspective, this is a credible method of counting transfers, because the student is only counted once. However, the system has increasingly encouraged colleges to form consortia to save cost by offering courses that spread out across a number of adjacent colleges. Students may choose to take courses by hopping among the colleges either for this reason or for convenience (living in the community). From an individual college's perspective, it is not appropriate to create a sense of competition by only crediting the transfer to the college where the student received most of the units. A potential scenario can be that students rely on College A for certain Math and Engineering courses, College B for English, History, Psychology and Basic Skills courses, and College C for something else in order to put together their transfer portfolio. College A or College C stand a poor chance of being credited for transferring students because they offer the classes that do not generate most of the transfer units, even though their contribution to the successful transfer is equally significant.

Given the fact that not all transfers earned all their transfer units, so called native transfer units, in one institution only, it was necessary to study how many transfer units that the transferred students had earned from Cabrillo College. Table Three examines the number of Transfer Units earned at Cabrillo College by ranges. Transfer units are defined as earned units in UC/CSU transferable courses with a grade of A, B, C, CR.

Table Three. Transfer Units by Range (Units calculated based on MIS UC/CSU course transfer criteria.)

		0-15 #	0-15 %	16-30 #	16-30 %	31-45 #	31-45 %	46-56 #	46-56 %	57-60 #	57-60 %	61+ #	61+ %	Total >30Units	% of >30Units
1994	2-Year	12	75%	4	25%										
1994	CSU	252	60%	135	27%	74	18%	33	7%	6	1%	5	1%	118	23%
1994	UC	311	67%	124	23%	84	18%	18	3%	7	1%	8	1%	115	21%
1994	Other 4-yr	41	66%	12	19%	6	10%	1	2%			2	3%		
1995	2-Year	242	76%	44	14%	15	5%	4	1%	1	0%	2	1%		
1995	CSU	175	40%	92	21%	69	16%	41	9%	17	4%	47	11%	174	39%
1995	UC	212	50%	75	18%	50	12%	39	9%	18	4%	34	8%	141	33%
1995	Other 4-yr	115	73%	23	15%	13	8%	3	2%			3	2%		
1996	2-Year	279	72%	70	18%	26	7%	11	3%			1	0%		
1996	CSU	148	36%	68	17%	54	13%	69	17%	14	3%	55	13%	192	47%
1996	UC	248	50%	71	14%	58	12%	43	9%	25	5%	51	10%	177	36%
1996	Other 4-yr	170	65%	56	21%	22	8%	7	3%	3	1%	5	2%		
1997	2-Year	336	71%	93	20%	30	6%	7	1%	3	1%	7	1%		
1997	CSU	144	37%	51	13%	49	13%	45	12%	14	4%	82	21%	190	49%
1997	UC	148	40%	45	12%	45	12%	39	11%	18	5%	69	19%	170	47%
1997	Other 4-yr	186	65%	51	18%	23	8%	9	3%	2	1%	17	6%		
1998	2-Year	556	71%	140	18%	51	7%	19	2%	6	1%	11	1%		
1998	CSU	169	37%	76	16%	59	13%	53	11%	15	3%	89	19%	216	47%
1998	UC	178	42%	57	13%	54	13%	36	8%	21	5%	80	19%	191	45%
1998	Other 4-yr	181	62%	52	18%	22	8%	16	6%	4	1%	15	5%		
1999	2-Year	548	69%	138	17%	62	8%	22	3%	3	0%	19	2%		
1999	CSU	172	37%	63	14%	50	11%	43	9%	26	6%	111	24%	230	49%
1999	UC	160	36%	71	16%	37	8%	41	9%	24	5%	106	24%	208	47%
1999	Other 4-yr	244	65%	64	17%	31	8%	16	4%	3	1%	20	5%		
2000	2-Year	598	68%	164	19%	58	7%	35	4%	6	1%	17	2%		
2000	CSU	191	37%	54	11%	60	12%	39	8%	30	6%	138	27%	267	52%
2000	UC	178	35%	83	16%	57	11%	44	9%	23	5%	124	24%	248	49%
2000	Other 4-yr	216	63%	51	15%	32	9%	14	4%	10	3%	22	6%		

The data indicate that close to half of the transfers earned the majority (over 30) of their transfer units from Cabrillo College. The other half of the transfers who earned fewer

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than half of their transfer units are nevertheless transfers who relied on Cabrillo College to be successful. Since they are transfers whose success involves Cabrillo College, it is just as appropriate for Cabrillo College to be credited for their academic achievement as other community colleges at which these students attended. Further, understanding the transfer course-taking pattern of these students could only enhance the transfer mission of the college.

It is worth noting that in year 2000, using NSC data matching, we found a total of 248 students who transferred to the UC system after earning more than half of their UC transferable units from Cabrillo (Table Three). And yet, CPEC reported a total of 241 transfers for that year (Table Two). We believe Cabrillo College should at least be credited for 248 students using CPEC's counting method and the discrepancy of seven students is likely, in our best guess, a error made somewhere in the hierarchical transfer reporting structure.

SECTION TWO. TRANSFER DESTINATIONS

UC Transfers

Table Five is a detailed listing of the number of transfers to individual UC institutions. Overall, UCSC attracted 71% of the transfers, with UC Berkeley being the distant second at 7%.

Table Five. Transfers to Individual UC Institutions by Number and Year of First Enrollment.

	1995	1996	1997	1998	1999	2000	Total	
	#	#	#	#	#	#	#	%
UNIVERSITY OF CALIFORNIA-SANTA CRUZ	326	392	304	360	350	415	2,147	71%
UNIVERSITY OF CALIFORNIA-BERKELEY	46	38	28	30	33	43	218	7%
UNIVERSITY OF CALIFORNIA-SANTA BARBARA		79	26	17	40	36	198	7%
UNIVERSITY OF CALIFORNIA-DAVIS	93	30	20	24	16	20	203	7%
UNIVERSITY OF CALIFORNIA-LOS ANGELES	20	15	14	20	16	11	96	3%
UNIVERSITY OF CALIFORNIA-SAN DIEGO	15	12	16	12	12	9	76	3%
UNIVERSITY OF CALIFORNIA-EXTENSION			6	11	12	17	46	2%
UNIVERSITY OF CALIFORNIA-IRVINE	12	6	2	3	4	4	33	1%
UNIVERSITY OF CALIFORNIA- HASTINGS COLLE				6			6	0%
UNIVERSITY OF CALIFORNIA-DAVIS 80			1	1			2	0%
Total	512	575	417	483	483	555	3,025	

CSU Transfers

Of the CSU institutions that are members of NSC and therefore provided data for data matching, San Jose State appears to be the most popular transfer institution with close to half (45%) of the transfer students attending there. San Francisco State has 16% of former Cabrillo College students and CSUMB another 11%.

Table Six. Transfers to Individual CSU Institutions by Number and Year of First Enrollment.

	1995	1996	1997	1998	1999	2000	Total	
	#	#	#	#	#	#	#	%
SAN JOSE STATE UNIVERSITY	239	195	203	201	243	268	1,349	45%
SAN FRANCISCO STATE UNIVERSITY	81	86	72	85	84	77	485	16%
CALIFORNIA STATE UNIVERSITY - MONTEREY B	28	44	55	69	64	68	328	11%
CAL POLYTECHNIC STATE UNIVERSITY	42	39	26	29	35	46	217	7%
SAN DIEGO STATE UNIVERSITY	17	22	23	35	22	35	154	5%
CALIFORNIA STATE UNIVERSITY - SACRAMENTO	46	29	15	16	32	30	168	6%
CAL STATE U- FRESNO	18	15	10	7	3	6	59	2%
HUMBOLDT STATE UNIVERSITY	18	6	14	21	20	22	101	3%
CALIFORNIA STATE UNIVERSITY - NORTHRIDGE	17	10	4	4	6	6	47	2%
SONOMA STATE UNIVERSITY				34	2	1	37	1%
CALIFORNIA STATE UNIVERSITY - FULLERTON		9	2	3	5	7	26	1%
CALIFORNIA STATE UNIVERSITY - STANISLAUS			9	6	2	6	23	1%
CALIFORNIA STATE POLYTECHNIC		3	1	4	2		10	0%
CALIFORNIA STATE UNIVERSITY - SAN MARCOS	1	1	1	1	2		6	0%
Total	507	459	435	515	522	572	3,010	

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Transfers To Other 4-Year Institutions

Another important finding from the NSC transfer data matching is the fact that on average 24.4% of the former Cabrillo College students enrolled in other 4-year institutions outside the UC/CSU systems. This information was never completely available to the college. The number of institutions to which former Cabrillo College students have been transferring amounts to a total of 484. Seven out of 100 (7.4%) of former students who transferred to these institutions have attended University of Phoenix. Table Seven shows the institutions that more than 4 Cabrillo College students have attended after they left Cabrillo.

Table Seven. Transfers To Other 4-Year Institutions by Number (Selected for Institutions with more than 4 Students Transferred).

	Total #	%
UNIVERSITY OF PHOENIX	195	7.4%
ACADEMY OF ART COLLEGE	79	3.0%
NATIONAL UNIVERSITY	79	3.0%
SANTA CLARA UNIVERSITY	79	3.0%
UNIVERSITY OF SAN FRANCISCO	74	2.8%
UNIVERSITY OF SOUTHERN CALIFORNIA	67	2.5%
PORTLAND STATE UNIVERSITY	48	1.8%
UNIVERSITY OF KANSAS	47	1.8%
GOLDEN GATE UNIVERSITY	45	1.7%
VIRGINIA POLYTECH AND STATE UNIV	44	1.7%
JOHN F KENNEDY UNIVERSITY	43	1.6%
STANFORD UNIVERSITY	39	1.5%
UNIVERSITY OF COLORADO AT BOULDER	35	1.3%
UNIVERSITY OF MONTANA	35	1.3%
UNIVERSITY OF OREGON- MAIN CAMPUS	33	1.3%
COLORADO STATE UNIVERSITY	31	1.2%
ST MARY'S COLLEGE OF CALIFORNIA	30	1.1%
MILLS COLLEGE	29	1.1%
UNIVERSITY OF NEVADA-RENO	29	1.1%
NEW YORK UNIVERSITY	26	1.0%
CENTRAL MISSOURI STATE UNIVERSITY	25	0.9%
UNIVERSITY OF UTAH	24	0.9%
UNIVERSITY OF MAINE - ORONO	23	0.9%
OKLAHOMA STATE UNIVERSITY	22	0.8%
UNIVERSITY OF THE PACIFIC	21	0.8%
PEPPERDINE UNIVERSITY	19	0.7%
CALIFORNIA INSTITUTE OF INTEGRAL STUDIES	18	0.7%
SOUTHERN OREGON UNIVERSITY	18	0.7%
BRIGHAM YOUNG UNIVERSITY	17	0.6%
AUBURN UNIVERSITY	16	0.6%
BOSTON UNIVERSITY	16	0.6%
NEW SCHOOL UNIVERSITY	16	0.6%
CUNY BERNARD M BARUCH COLLEGE	15	0.6%
EMBRY RIDDLE AERONAUTICAL UNIV -EXTENDED	15	0.6%
CUNY HUNTER COLLEGE	14	0.5%
SAMUEL MERRITT COLLEGE	14	0.5%
UNIVERSITY OF ALASKA- ANCHORAGE	14	0.5%
UNIVERSITY OF MASSACHUSETTS AT AMHERST	14	0.5%
UNIVERSITY OF NEW MEXICO	14	0.5%
CUNY QUEENS COLLEGE	13	0.5%
DEVRY INSTITUTE OF TECHNOLOGY-FREEMONT	13	0.5%
JOHN F KENNEDY UNIVERSITY UNDERGRAD	12	0.5%
LOYOLA MARYMOUNT UNIVERSITY	12	0.5%
NAROPA INSTITUTE	12	0.5%
UNIVERSITY OF VERMONT & STATE AGRICULTUR	12	0.5%
UNIVERSITY OF WASHINGTON- SEATTLE	12	0.5%
WASHINGTON STATE UNIVERSITY	12	0.5%
EMBRY RIDDLE AERONAUTICAL UNIVERSITY - A	11	0.4%
UNIVERSITY OF ST. FRANCIS	11	0.4%
WRIGHT STATE UNIVERSITY	11	0.4%
BOSTON COLLEGE	10	0.4%
GONZAGA UNIVERSITY	10	0.4%
PENNSYLVANIA STATE UNIVERSITY	10	0.4%
UNIVERSITY OF COLORADO AT DENVER	10	0.4%
UNIVERSITY OF REDLANDS	10	0.4%

	Total #	%
BIOLA UNIVERSITY	9	0.3%
CUNY BROOKLYN COLLEGE- MIDWOOD	9	0.3%
METROPOLITAN STATE COLLEGE	9	0.3%
MONTEREY INSTITUTE OF INTERNATIONAL STUD	9	0.3%
NOTRE DAME DE NAMUR UNIVERSITY	9	0.3%
PACIFIC UNION COLLEGE	9	0.3%
AMERICAN UNIVERSITY	8	0.3%
AZUSA PACIFIC UNIVERSITY	8	0.3%
CALIFORNIA INSTITUTE OF THE ARTS	8	0.3%
PRESCOTT COLLEGE-RESIDENT DEGREE PROGRAM	8	0.3%
TEMPLE UNIVERSITY	8	0.3%
TULANE UNIVERSITY	8	0.3%
WESTERN ILLINOIS UNIVERSITY	8	0.3%
WILMINGTON COLLEGE	8	0.3%
ATHENS STATE UNIVERSITY	7	0.3%
CUNY JOHN JAY COLLEGE OF	7	0.3%
CUNY LEHMAN COLLEGE	7	0.3%
CUNY NEW YORK CITY TECHNICAL	7	0.3%
EASTERN MICHIGAN UNIVERSITY	7	0.3%
FORT LEWIS COLLEGE	7	0.3%
MONTANA STATE UNIVERSITY - BOZEMAN	7	0.3%
NORTHWESTERN UNIVERSITY	7	0.3%
OHIO STATE UNIVERSITY	7	0.3%
POMONA COLLEGE	7	0.3%
UNIVERSITY OF DENVER- COLORADO	7	0.3%
UNIVERSITY OF MICHIGAN-CENTRAL CAMPUS	7	0.3%
UNIVERSITY OF WISCONSIN-MADISON	7	0.3%
WESTERN WASHINGTON UNIVERSITY	7	0.3%
CUNY MEDGAR EVERS COLLEGE	6	0.2%
HUMPHREYS COLLEGE	6	0.2%
NORTH CAROLINA STATE UNIVERSITY	6	0.2%
OREGON STATE UNIVERSITY	6	0.2%
SALEM STATE COLLEGE	6	0.2%
SCRIPPS COLLEGE	6	0.2%
SIMPSON COLLEGE	6	0.2%
SOUTHAMPTON COLLEGE OF LONG ISLAND UNIVE	6	0.2%
SYRACUSE UNIVERSITY	6	0.2%
UNIVERSITY OF MARYLAND- COLLEGE PARK	6	0.2%
UNIVERSITY OF MINNESOTA-TWIN CITIES	6	0.2%
UPPER IOWA UNIVERSITY	6	0.2%
YALE UNIVERSITY	6	0.2%
COLUMBIA COLLEGE	5	0.2%
DALLAS BAPTIST UNIVERSITY	5	0.2%
EMBRY-RIDDLE AERONAUTICAL UNIVERSITY - D	5	0.2%
FAIRMONT STATE COLLEGE-TRADITIONAL	5	0.2%
GEORGE MASON UNIVERSITY	5	0.2%
HAMPSHIRE COLLEGE	5	0.2%
HARVARD UNIVERSITY - CONTINUING ED	5	0.2%
MESA STATE COLLEGE	5	0.2%
OBERLIN COLLEGE	5	0.2%
OLD DOMINION UNIVERSITY	5	0.2%
SEATTLE PACIFIC UNIVERSITY	5	0.2%
ST MARY'S UNIV--MINNEAPOLIS	5	0.2%
SUNY BUFFALO	5	0.2%
UNIVERSITY OF ALASKA- FAIRBANKS	5	0.2%
UNIVERSITY OF NEVADA LAS VEGAS	5	0.2%
UNIVERSITY OF NORTHERN COLORADO	5	0.2%

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Lateral Transfers to Other 2-Year Institutions.

After leaving Cabrillo, for every transfer to a UC/CSU or other 4-year institutions, there was a transfer to a community college, mostly in state than out of state. On average, it is about 1,000 per year. These so called "lateral transfers" are indeed not to be dismissed. Table Eight shows some of the community colleges popular for lateral transfers are De Anza College with a count of 816, followed by Hartnell College of 779, City College of San Francisco of 417, and Foothill of 382.

Table Eight. Lateral Transfers to Other 2-Year Institutions by Number (selected for Institutions with more than 100 Students Transferred).

	1994	1995	1996	1997	1998	1999	2000	2001	Total
	#	#	#	#	#	#	#	#	#
DE ANZA COLLEGE		142	116	132	101	107	128	90	816
HARTNELL COMMUNITY COLLEGE		100	91	109	104	141	141	93	779
CITY COLLEGE OF SAN FRANCISCO		88	70	80	53	68	46	12	417
FOOTHILL COLLEGE			97	48	46	60	91	40	382
CUESTA COMMUNITY COLLEGE	16	21	24	29	38	37	52	36	253
HEALD BUSINESS COLLEGE		36	20	23	17	27	49	20	192
BUTTE COMMUNITY COLLEGE					51	44	33	33	161
SAN DIEGO MESA COLLEGE					60	26	43	32	161
SANTA ROSA JUNIOR COLLEGE					65	37	34	14	150
MONTEREY PENINSULA COLLEGE					85	62			147
AMERICAN RIVER COLLEGE LOS RIOS CC DISTR						60	45	34	139
SANTA BARBARA CITY COLLEGE					23	29	43	27	122
SACRAMENTO CITY COLLEGE-LOS RIOS CC DIST						47	45	19	111
DIABLO VALLEY COLLEGE				26	37	17	19	11	110

SECTION THREE. DATA CAVEATS AND RECOMMENDATIONS

It is important to note a few caveats when interpreting and using the data in this briefing.

Individual Students May Block Record From Release
If an institution has a high percent of over 70% of students blocking their directory information from being released to public, the institutions will be disqualified for participating in data matching. If a student blocks his/her directory information, then s/he would not be in the matched database. If an individual student blocks his/her directory information from being released (A student may choose not to allow his/her name and department of study from appearing in the college directory), then NSC data do not contain this student.

Not Every Higher Education Institution Is A Member In NSC.
NSC is a membership organization that it claims to have over 75% of all postsecondary institutions as its members. Looking it another way, not every institution of higher learning is a member of NSC. For instance, Chico State has not re-sign their contract with NSC, which may have cause 89 students from being reported.

Student Name Change
Some students may have changed their names upon leaving school, which may also cause the count to be lower than it should be. According to NSC, this group of students is small.

Multiple Enrollments
Students can be found in two or three institutions. When this happens, NSC will report both records if the student is enrolled in a different type of institution, such as a 2-year vs. 4-year. In other instances, only one institution will be reported and the student will be marked with a "Y". If a student has a record of first time attendance as a freshman/sophomore and later enrolled in the graduate school of the same institution, the freshman/sophomore enrollment record will be counted. If a student is enrolled as a graduate student, NSC will not report it if the institution has a separate branch code for graduate schools.

UC/CSU Transfer Institution Crediting vs. NSC Data Matching
For community college students that have attended multiple colleges in the California community college system, UC and CSU institutions have credited the transfer origin institutions based on the highest amount of units completed by the students.

Recommendations

We have five recommendations for system change and recommendations for institutional efforts.

Recommendation One: Chancellor's Office should work with UC/CSU system offices to release to community colleges unitary data records beyond summary report for transfer improvement research.

Data are the foundation for sound decisions. Decisions can impact an organization for years to come. The findings from this data-matching project bring forward a number of policy issues. First and foremost is the lack of research information on transfer students as currently reported by CPEC. The summary reporting of transfer numbers by CPEC reveals nothing beyond just grouped and summary information. Colleges are essentially in the dark about which student had transferred and what courses had helped them, let alone services and other contributing factors. Several regional data matching agreements with Chancellor's Office backing one of them are underway between a few UC/CSU institutions and community colleges to obtain enrollment records of the students who have transferred. It will also provide the colleges with information on the majors and even graduation data on former community college students. Cabrillo College leads a local consortium to exchange information with UCSC, SJSU and CSUMB. Before such an ambitious task is implemented statewide, there is an immediate solution, which involving the Chancellor's Office working with UC/CSU systems to release certain identifiable transfer student information, such as their social security numbers. This will definitely help community colleges devise strategies to increase the number of transfer students through knowing who have taken most, some or few transfer units at the college. This is a sure and only way for the colleges to determine what best accounts for transfer and what not. From the individual college standpoint, being able to know who have transferred among all that have attended the college would have far greater importance and practical policy sense than what the current situation offers. In our instance, for Cabrillo College to know who they are and consequently what courses they took while they were here would greatly enhance the research efforts into transfer.

Recommendation Two: Encourage individual colleges to use NSC data to report as their transfer counts.

The difference in counts by CPEC and NSC needs to be addressed. From a system perspective, it is appropriate to count students only once. To achieve this, UC/CSU systems identify the transfer institution by totaling the units taken by students and by colleges and credit the institution from which the student has accumulated the most units. In our case, at least 35%, or one third of the students remain hidden to Cabrillo College due to this counting. Did Cabrillo contribute to the successful transfer of these students? The answer is yes. If so, Cabrillo College needs to be duly credited.

Based on CPEC data, a number of assumptions have been made in the transfer area, which could have led to erroneous decisions. For example, if we continue to believe that transfers are down and have been down for the last five years, it means that Partnership for Excellence has contributed little to our system's transfer in general and Cabrillo in particular. The transfer courses and transfer related services and resources could have all undergone a series of changes that may have been research-poor decisions at best, wasted efforts at worst. Findings based on NSC data have shown an upward transfer trend line for Cabrillo College as oppose to the downward trend line (Figure One) as reported by the CPEC. This is likely to be the case for many individual colleges should they use NSC data. Questions remain whether there is an error in counting by CPEC or

it simply means that more students are opting to enroll in multiple colleges, which results in the same transfer student being counted multiple times? However, what is of critical policy interest to an individual college is in knowing how many of the students who attended the college indeed have transferred; regardless of how many units they ended up accumulating. The more the merrier, of course. Whether or not other colleges where the students have attended counted them as transfers or not is not relevant.

Recommendation Three: Establish policies and conduct research studies on transfers to 4-year non-UC/CSU institutions.

The large number of transfers to other 4-year non-UC/CSU institutions identified using NSC data cannot be ignored. A transfer is a transfer and it helps assessing the contribution community colleges have upon accountability, the state's overall transfer goal, and the nation's economy. Currently, most of the community colleges in California have focused their transfer resources primarily on students who are UC/CSU bound, because we have traditionally not had data from outside of UC/CSU and the fact that UC/CSU have traditionally formed closer ties with community colleges. If we do not acknowledge the students who transfer outside UC/CSU, then we have neglected the needs of a quarter of our total transfers. Many of these students may have needs that are different from traditional transfers to UC/CSU institutions. Further, assisting these students may indeed further increase the overall transfers. It is recommended the Chancellor's Office independently or in conjunction with individual community colleges conduct studies to better understand the transfer behaviors and transfer needs of these students.

Recommendation Four: Encourage research on the transferred students to better understand their academic behaviors.

Due to the highly desirable nature of the data being unitary, meaning that every transfer statistic is based on an actual student in the database, further analysis of this type of data can provide enormous value to the college. For starters, the research staff can examine the students who had transferred against those who did not in order to gain essential understanding of the student characteristics. Built upon this knowledge, the researcher can further examine the course taking patterns of these transferred students to identify the factors related to and correlations between student characteristics and their educational activities/outcomes. The data are possible for reporting transfer by feeder high schools, or any other student groups. The data can be regarded as a benchmark for monitoring the transferring function of the college.

Should CPEC release unitary student data on the transfers, Cabrillo College may use the NSC data to run against the students who were identified as transfers by CPEC to understand the population characteristics and their course history. Further, the college can cluster those who ended up taking more transfer courses at other colleges to understand which group may increase its size and which group would not. This will at

least prevent the college from blindly targeting everyone for counseling, tutoring, and mailing, which is considered less economical, if not unscientific.

> Recommendation Five: In conjunction with releasing identifiable information of CPEC's transfers, Chancellor's Office should use its data warehouse to provide reports to individual colleges on multiple enrollment and units taken at each location.

Just NSC data alone indicated that every year over 1,000 former Cabrillo College students attended another community college after leaving Cabrillo College. This does not include the concurrently enrolled students. This large number of lateral transfers presents a unique challenge and perhaps an opportunity to curriculum design, teaching, marketing, and learning assessment. For starters, for these lateral transfers, we must be mindful that their success cannot be entirely attributable to one college alone. The various marketing activities organized by each college may not have taken into account the needs and behaviors of these students. We may have inadvertently put the college's need to increase the transfer units taken by students above a student's need to quickly and efficiently put together his/her transfer portfolio regardless of where the course is offered. It ought to be a wake up call for colleges to realize how little we know about our students.

There are two types of information that Chancellor's Office can assist all 109 community colleges in obtaining. First, it is the information on multiple college course taking of the lateral transfer students (multiple enrollment and concurrent enrollment). This will help shed light on knowing who these students are and what their needs may be. Secondly, the Chancellor's Office may provide data on those success stories of having transferred to a 4-year institution their course taking patterns in all the colleges that they attended. This information will help colleges work together to plan their curriculum, identify the needs of the learners, and find the best and quickest way to facilitate transferring. For an individual college, armed with this information, it may examine the transfer units taken by students in ranges and target its academic intervention to those who are simply making slow progress, not because they are taking classes elsewhere without the college's knowledge!

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement (OERI)
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